K+
ENVIRONMENTAL SERVICES

Direct Dial 312 831 2180
E-Mail dan@k-plus com

May 14, 2004

R. Lavin Creditors Committee
c/o Mr. David Abrams
39 S. LaSalle Street, Suite 39
Chicago, Il 60603

Facsimile: 312.629.1295 *E-mail: abrams@ajworkout.com*

AOC Work Plan **Project No.**
R. Lavin & Sons 12067
2028 N. Sheridan Road
North Chicago, IL 60064

Dear Mr. Abrams:

Pursuant to Section V of the USEPA Administrative Order, the following work activities are required at this site:

a. Develop and implement a site-specific Work Plan including a proposed time line.

b. Develop and implement a site-specific Health and Safety Plan.

c. Establish and maintain site security measures during the removal actions, which may include security guard service.

d. Identify, sample, and characterize the hazardous substances located at the Site.

e. Remove all water and sediment from the bulk storage areas, treat water and sediment as necessary to reduce contaminant levels to allow for appropriate disposal. Implement actions in the following order: 1) Three above ground storage tanks ("AST"); 2) Concrete pit; 3) Two retention ponds.

f. Decontaminate the three ASTs, and concrete pit prior to dismantling and/or demolition.

g. Excavate contaminated soil under the retention ponds as necessary to conform with industrial soil remediation goals.

In order to meet the requirements of the AOC, K-Plus Environmental has prepared this AOC Work Plan to describe the tasks that will be completed.

1.0 TANKS

1.1 Isolation and Opening of Tanks

The tanks to be cleaned will be opened and isolated from all energy systems by K-Plus Industrial Services, Inc. personnel assisted by a knowledgeable facility person. The immediate area will be cordoned off with caution tape to warn away any non-essential personnel from the work areas. The tanks will then be isolated from all water sources.

Based on testing completed by the USEPA, the sludges that will be generated from the tanks and concrete pit are hazardous because of heavy metal contamination. K-Plus Industrial Services, Inc. will utilize the tanks, and as necessary lined roll-off boxes, as containment for the sludges during the work process. Free water will be removed for disposal as a liquid. The sludge that remains will be then treated on site with hydrated lime to encapsulate and stabilize the heavy metal and to render the waste non-hazardous.

1.2 Cleaning of Storm Water Tank

When last measured, the 120-foot diameter storm water tank at the north end of the property had approximately 1 inch of sludge remaining for removal. This equates to 35 cubic yards for removal. K-Plus Industrial Services, Inc. will enter the tank and remove

the sludge using a vacuum operation. When a truck is filled to capacity, it will be transferred to a lined roll-off box on site where it will be treated on site. This procedure will be closely monitored to ensure no spillage occurs during the task assignment. After the sludge removal, the storm water tank will be washed down with a solution of water and hydrated lime to address any residual heavy metal contamination. The water generated will be discharged into a 20,000 gallon (Frac tank) holding tank for disposition and disposal.

1.3 Cleaning of Two Clarifier Tanks

Based on prior measurements, it is estimated that Tank No. 1 has approximately two inches of sludge remaining for removal which is estimated to equate to approximately 13 cubic yards for removal. K-Plus Industrial Services, Inc. will remove the top water in the tank prior to entering. The water will be discharged into the holding tanks onsite. K-Plus Industrial Services, Inc. will then enter the tank and remove the sludge using a vacuum process until the truck is filled. The sludge will then be transferred to a lined roll-off box fort treatment with hydrated lime prior to disposal off-site. After sludge removal, the tank surfaces will be washed down with a solution of water and hydrated lime to encapsulate any remaining heavy metals. The solution will be applied using a jetter system that is high-volume, low-pressure delivery. The water generated will be placed into the 20,000 gallon holding tank.

Tank No. 2 also contains approximately one inch of sludge. However, it also contains several drums of sludge that will require removal. The sludge will be removed with the vacuum process and the drums will also be emptied with the same process. The generated sludge will then be transferred to lined roll-off boxes for treatment with hydrated lime prior to disposal off-site. The drums will be washed off, manually crushed and placed

into a different roll-off box for disposal. The interior surfaces will be washed down with the lime and water solution and the water removed and placed into a holding tank.

1.4 Cleaning of Open Pit

Following the removal of all free liquid from the open pit, under the I-beams near the center of the property, K-Plus Industrial Services, Inc. will use the same vacuum process to remove approximately eight inches of sludge contained in the pit. for removal. The sludge will then be transferred to lined roll-off boxes for treatment with hydrated lime prior to disposal off-site. The pit will then be washed with the same chemical solution to address any residual heavy metals and again, the water will be discharged into the 20,000-gallon holding tank.

2.0 WASTE DISPOSAL SAVINGS

2.1 Water Disposal

The liquids that will be generated from top water removal and from the cleaning operations will be stored in large holding tanks. That water will also be mixed with used chemical solutions during the project. When disposal of any liquids is necessary, K-Plus Industrial Services, Inc. will utilize a very unique system to filter the liquids being removed through a portable micron filtration unit. Our objective is to remove the suspended solids from the liquids that normally create a heavy metal contamination problem for disposal options. Prior to any liquids being removed for disposal, K-Plus Industrial Services, Inc. would collect a sample that has been passed through the micron filtration system and submit it for analysis and waste stream approval. From our past experience, the results should indicate a substantial reduction of contamination from heavy metals. The use of our micron filtration system, as well as treatment of the sludge

with hydrated lime, allows the transport of the waste as a non-hazardous special waste to a local landfill.

2.2 Solid Waste Stabilization and Disposal

K-Plus Industrial Services will treat the sludge contaminated with heavy metals, and mix in a slurry of hydrated lime to stabilize and fix the metals. We will then de-water the sludge prior to disposal. The filtered water will then be re-used in the tank cleaning. The de-watered sludge will be tested and once it is non-hazardous, it will be transported to an off-site disposal facility.

3.0 HEALTH AND SAFETY AWARENESS PROGRAM

K-Plus Industrial Services, Inc. recognizes SAFETY as our first priority in our daily task assignments. To address this priority, we require our personnel to receive the following specialized training pursuant to **OSHA 29CFR1910.120**:

40-hour Hazwoper training	8-hour yearly refresher training
10-hour OSHA construction trade	CPR and first aid certifications
Confined space entry training	Confined space entry rescue training
OSHA regulated materials	Blood borne pathogen training
Lock out/Tag out training	Fall arrest training

If you have any questions regarding the tasks in this AOC Scope of Work, please contact me.

Sincerely,

K-PLUS ENVIRONMENTAL

Daniel M. Caplice

Daniel M. Caplice, P.E.

HEALTH AND SAFETY PLAN

Site Name: R Lavin	**Site Contact:** Glenn Eisenhuth	**Telephone:** 312 629 8585
Location: 2028 N Sheridan, North Chicago, 60064	**Client Contact:** David Abrams	**Telephone:** 312 629 8585
EPA I.D. No. NA	**Prepared By:** Daniel Caplice	**Date:** May 14, 2004
Project No. 12067	**Date of Proposed Activities:** May 18-31, 2004	

Objectives:

K-Plus and it contractors will remove water and sludge from 3 open top storage tanks located at the north and south ends of the property as well as from an open reservoir near the center of the property Following the removal, the tanks and the reservoir will be thoroughly cleaned All water and sludge will be properly manifested and sent off-site to licensed disposal/treatment facilities

Site Type: *Check as many as applicable.*

☐	Active	☐	Confined space	☐	Well field
☒	Inactive	☐	Landfill	☐	Unknown
☒	Secure	☐	Uncontrolled	☐	Underground storage tank
☐	Unsecured	☒	Industrial	☒	Other *(specify)* Aboveground storage tanks

Site Description and History:

The facility occupies a 17 5-acre parcel of land. It is in the northwest corner of Section 4, T44, R12E. In the late 19th century, the Vulcan Louisville Smelting Company occupied much of the property now owned by Lavin An enforcement case was initiated by DWPC in the late eighties and a Consent Order required additional monitoring and studies to be done by Lavin. The site was engaged in secondary smelting and refining of nonferrous metals The facility produced pure copper, zinc, tin, and babbitt, and recycles brass, bronze, and scrap copper Process operations consisted of recycling and reusing water for direct ingot cooling, smoke spray towers, flue trail dumpers, press heat exchanges, zinc die-cast molds, cupola water jackets and cupola slag granulation. The process utilized two 255,000-gallon capacity tanks at the north end of the Property and one 2 million gallon tank at the south end of the property to contain all storm and process water at the site for use as process cooling water The 2 tanks at the north end of the Property were also used to remove suspended solids and oil skimming A filter press and filtration unit were housed nearby to treat the sediments that collected in the tanks at the north end. Two open ditches and a weir were used to collect site storm water at the south end of the property and direct it to the large holding tank The system was designed to collect all water and prevent any run-off to the municipal sewer systems except in period of extreme precipitation

HEALTH AND SAFETY PLAN

Site map

HEALTH AND SAFETY PLAN

Waste Management Practices:

Because storm water picks up sediment and solids on the Property that may be high in inorganics, the storm water collection system was designed to collect and re-use all storm water as process cooling water and prevent any off-site discharge of this water to the municipal sewer systems except in periods of extreme precipitation coming in contact with contaminated materials

Waste Types: [X] Liquid [X] Solid [X] Sludge [ ] Gas [ ] Unknown

Waste Characteristics:

- [ ] Corrosive
- [X] Toxic
- [ ] Inert
- [ ] Ignitable
- [ ] Flammable
- [ ] Volatile
- [ ] Reactive
- [ ] Radioactive
- [ ] Unknown
- [ ] Other *(specify)* _____

Hazards of Concern:

- [X] Heat stress
- [ ] Cold stress
- [ ] Explosion or fire hazard
- [ ] Oxygen deficiency
- [ ] Radiological hazard
- [ ] Underground storage tanks
- [X] Surface tanks
- [ ] Buried utilities
- [ ] Overhead utilities
- [ ] Biological hazard
- [ ] Noise
- [X] Inorganic chemicals
- [ ] Organic chemicals
- [X] Heavy equipment
- [X] Other *(specify)* Fall prevention around ASTs

Explosion or Fire Potential: [ ] High [ ] Medium [X] Low [ ] Unknown

HEALTH AND SAFETY PLAN

Chemical Products K-Plus Will Use or Store On Site: (Attach a Material Safety Data Sheet [MSDS] for each item)

- [X] Alconox® or Liquinox®
- [ ] Hydrochloric acid (HCl)
- [X] Nitric acid (HNO_3)
- [ ] Sodium hydroxide (NaOH)
- [ ] Sulfuric acid (H_2SO_4)
- [X] Other *(specify)* Simple Green
- [X] Other *(specify)* Hydrated lime
- [ ] Other *(specify)* _____
- [ ] Other *(specify)* _____
- [ ] Other *(specify)* _____
- [ ] Other *(specify)* _____
- [ ] Other *(specify)* _____

HEALTH AND SAFETY PLAN

Chemicals Present at Site	Highest Observed Concentration (specify units and media)	PEL/TLV (specify ppm or mg/m^3)	IDLH Level (specify ppm or mg/m^3)	Symptoms and Effects of Acute Exposure	Photo-ionization Potential (eV)
Lead	U	0.050 mg/m^3	100 mg/m^3	Constipation, abdominal pain, colic, anemia; gingival lead line, tremor, paralysis wrist, ankles; encephalopathy, kidney disease; irritation eyes	NA
Copper	U	1 mg/m^3	100 mg/m^3	Irritation eyes, respiratory system, cough, dyspnea (breathing difficulty), wheezing	NA
Zinc	U	5 mg/m^3 (fume), 15 mg/m^3 (total dust)	500 mg/m^3	Metal fume fever, lassitude, metallic taste; headache, blurred vision, low back pain, vomiting, chest tightness, pulmonary function	NA
Chromium	U	1 mg/m^3	250 mg/m^3	Irritation eyes, skin, lung fibrosis (histologic)	NA
Manganese	U	5 mg/m^3	500 mg/m^3	Parkinson's; asthenia, insomnia, mental confusion; metal fume fever dry throat, cough, chest tightness, breathing difficulty, flu-like fever, low-back pain; vomiting	NA
Cadmium	U	NA	NA	Pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea, anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia,	
Mercury	U	0 1 mg/m^3	10 mg/m^3	Irritation eyes, skin, cough, chest pain, dyspnea (breathing difficulty), irritability, indecision, headache, lassitude (weakness, exhaustion), stomatitis, salivation, gastrointestinal disturbance	NA

Notes: NIOSH Pocket Guide to Chemical Hazards, 1997

A = Air
CARC = Carcinogenic
eV = Electron volt
GW = Groundwater
IDLH = Immediately dangerous to life or health
mg/m^3 = Milligram per cubic meter
NA = Not available
NE = None established
PEL = Permissible exposure limit
ppm = Part per million
S = Soil
SW = Surface water
TLV = Threshold limit value
U = Unknown

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

Field Activities Covered Under This Plan:

Task Description	Type	Level of Protection: Primary	Level of Protection: Contingency	Date of Activities
1 Site walkthrough	[X] Intrusive [ ] Nonintrusive	[ ] C [X] D [X] Modified	[X] C [ ] D [ ] Modified	5/19/04
2 Water removal	[X] Intrusive [ ] Nonintrusive	[ ] C [X] D [ ] Modified	[X] C [ ] D [ ] Modified	5/19-31/04
3 Sludge consolidation, stabilization, and disposal	[X] Intrusive [ ] Nonintrusive	[ ] C [X] D [ ] Modified	[ ] C [ ] D [X] Modified	5/25-31/04
4 Clean tanks and reservoir	[X] Intrusive [ ] Nonintrusive	[ ] C [X] D [ ] Modified	[X] C [ ] D [ ] Modified	5/25-31/04

Site Personnel and Responsibilities (include subcontractors)

Employee Name and Office Code	Task	Responsibilities
Jim McGlothen	1-4	Project Manager (PM)· Directs project activities at the site, makes site safety coordinator (SSC) aware of pertinent project developments and plans, and maintains communications with client as necessary
Robert Moore	1-4	Assistant Project Manager (APM). Assist PM in the direction of all project activities at the site, directs all aspects of the project in the absence of the PM
Al Pasco	1-4	Site Safety Coordinator (SSC) Ensures that appropriate personal protective equipment (PPE) is available, enforces proper utilization of PPE by on-site personnel, suspends work if he believes that site personnel are or may be exposed to an immediate health hazard, implements the health and safety plan, and reports any observed deviations from anticipated conditions described in the health and safety plan to the health and safety representative.
Daniel Caplice Bryon Clark	1-4	Senior Project Advisors Project planning and periodic advice during the project as obstacles are encountered to the original work plan
Joe Brakly, John Marks, Walter, Adamski	1-4	Field Personnel Complete tasks as directed by the PM or APM, and SSC and follow all procedures and guidelines established in the K-Plus Health and Safety Manual

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

Protective Equipment: (Indicate type or material as necessary for each task, attach additional sheets as necessary)

Task: [X] 1 [X] 2 [X] 3 [X] 4	Task. [X] 1 [X] 2 [X] 3 [X] 4
Level [ ] C [X] D [ ] Modified	Level [X] C [ ] D [ ] Modified
[X] Primary [ ] Contingency	[ ] Primary [X] Contingency
RESPIRATORY	RESPIRATORY
[X] Not needed	[ ] Not needed
[ ] APR _____	[X] APR MSA Ultra Twin
[ ] Cartridge _____	[X] Cartridge: GME P100
[ ] Escape mask _____	[ ] Escape mask: _____
[ ] Other _____	[ ] Other _____
PROTECTIVE CLOTHING	PROTECTIVE CLOTHING
[X] Not needed	[ ] Not needed
[ ] Tyvek® coveralls: _____	[X] Tyvek® coveralls _____
[ ] Saranex® coveralls: _____	[ ] Saranex® coveralls _____
[ ] Coveralls _____	[ ] Coveralls: _____
[ ] Other: _____	[ ] Other _____
HEAD AND EYE	HEAD AND EYE
[ ] Not needed	[ ] Not needed
[X] Safety glasses _____	[X] Safety glasses. _____
[ ] Face shield. _____	[ ] Face shield _____
[ ] Goggles _____	[ ] Goggles: _____
[X] Hard hat _____	[X] Hard hat _____
[ ] Other. _____	[ ] Other _____
GLOVES	GLOVES
[ ] Not needed	[ ] Not needed
[ ] Undergloves. _____	[ ] Undergloves: _____
[X] Gloves: Nitrile	[X] Gloves: Nitrile
[ ] Overgloves: _____	[X] Overgloves Neoprene
FIRST AID EQUIPMENT	FIRST AID EQUIPMENT
[ ] Not needed	[ ] Not needed
[X] Standard First Aid kit	[X] Standard First Aid kit
[ ] Portable eyewash	[ ] Portable eyewash
BOOTS	BOOTS
[ ] Not needed	[ ] Not needed
[X] Work boots Steel-Toe/Steel Shank	[X] Work boots Steel-Toe/Steel Shank
[ ] Overboots: _____	[X] Overboots Rubber booties
OTHER *(specify)* Safety harnesses will be provided in the event they need to be used to prevent falls into the ASTs	OTHER *(specify)* Safety harnesses will be provided in the event they need to be used to prevent falls into the ASTs

Note: APR = Air purifying respirator

HEALTH AND SAFETY PLAN

Monitoring Equipment: (Specify instruments needed for each task, attach additional sheets as necessary)

Instrument	Task	Instrument Reading	Action Guideline	Comments
Combustible gas indicator model	[x] 1 [x] 2 [x] 3 [x] 4	0 to 10% LEL	No explosion hazard	[ ] Not needed
		10 to 25% LEL	Potential explosion hazard, notify SSC	
		>25% LEL	Explosion hazard, interrupt task, evacuate site, notify SSC	
O_2 meter model: [ ]	[ ] 1 [ ] 2 [ ] 3 [ ] 4	>23 5% O_2	Potential fire hazard, evacuate site	[X] Not needed
		23 5 to 19 5% O_2	Oxygen level normal	
		<19 5% O_2	Oxygen deficiency, interrupt task, evacuate site, notify SSC	
Radiation survey meter model	[ ] 1 [ ] 2 [ ] 3 [ ] 4	<2 mrem per hour	Normal background	Note Annual exposure not to exceed 1,250 mrem per quarter [X] Not needed
		Three times background	Notify SSC	
		>2 mrem per hour	Radiological hazard, interrupt task, evacuate site, notify SSC	
Photoionization detector model [x] 11 7 eV [ ] 10 2 eV [ ] 9 8 eV [ ] _____ eV	[x] 1 [x] 2 [x] 3 [x] 4	>0 to 5 ppm above background	Level D	[ ] Not needed
		>5 to 20 ppm above background	Level C	
		>20 ppm above background	Evacuate site, notify SSC	
Flame ionization detector model	[ ] 1 [ ] 2 [ ] 3 [ ] 4	>0 to 5 ppm above background	Level D	[X] Not needed
		>5 to 20 ppm above background	Level C	
		>20 ppm above background	*Evacuate site, notify SSC*	
Detector tube models	[ ] 1 [ ] 2 [ ] 3 [ ] 4	Specify	Specify	Note The action level for upgrading the level of protection is one-half of the contaminant's PEL If the PEL is reached, evacuate the site and notify the SSC [X] Not needed
Respirable dust monitor model	[ ] 1 [ ] 2 [ ] 3 [ ] 4	Specify	Specify	[X] Not needed
Other (specify)	[ ] 1 [ ] 2 [ ] 3 [ ] 4	Specify	Specify	[X] Not needed

Notes eV = Electron volt LEL = Lower explosive limit mrem = Millirem O_2 = Oxygen PEL = Permissible exposure limit ppm = Part per million

HEALTH AND SAFETY PLAN

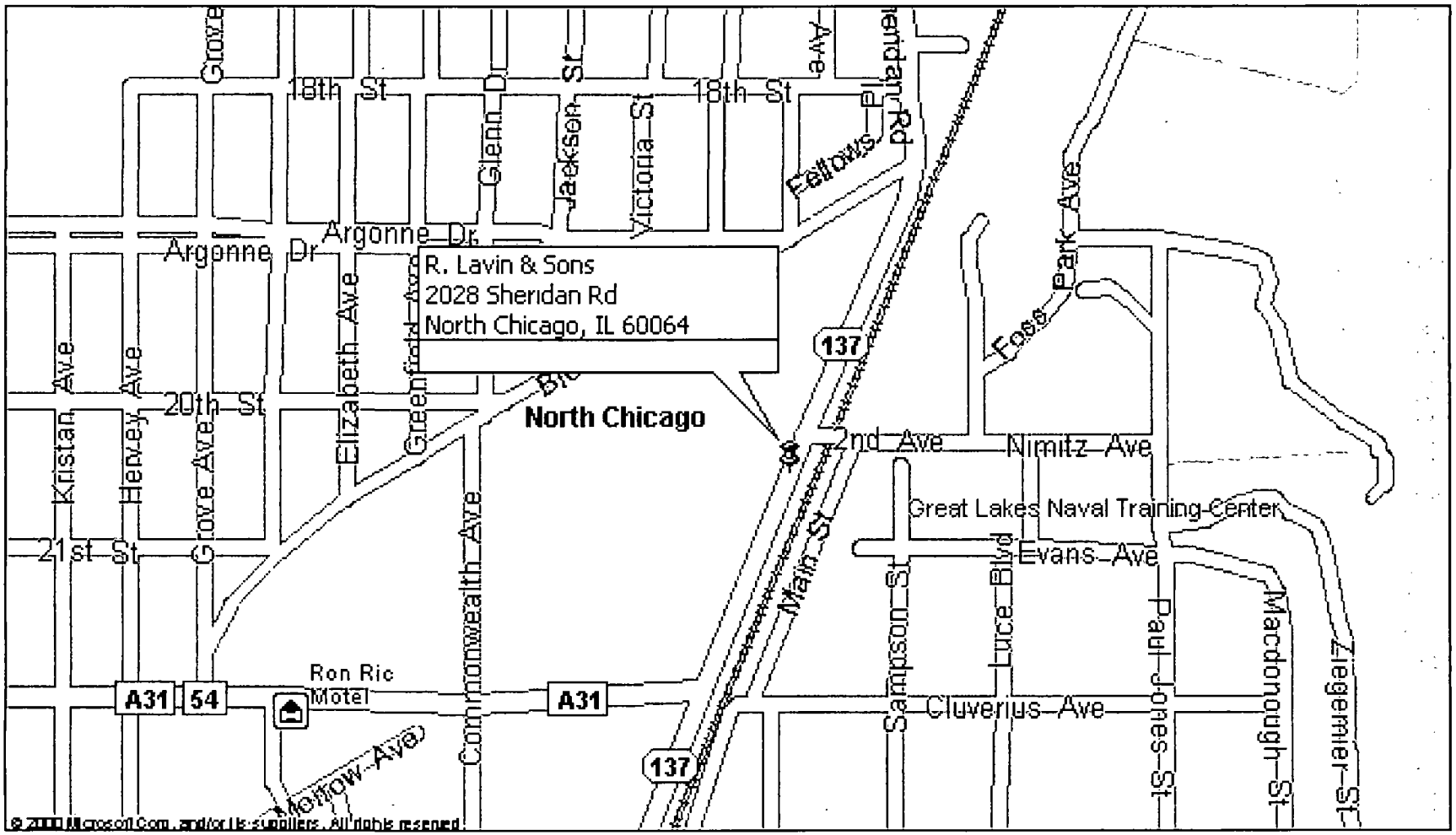
Additional Comments:	Emergency Contacts:	Telephone
Safety harnesses will be provided in the event they need to be used to prevent falls into the ASTs	U S Coast Guard National Response Center	800 424.8802
	InfoTrac	800 535.5053
	Fire department	911
	Police department	911
	K-Plus Personnel	
	Health & Safety Representative Daniel Caplice	312 343 0388
	Health and Safety Coordinator. Scott Hoffert	815 485 8480
	Project Manager Jim McGlothen	219 545 7747
	Site Safety Coordinator: Al Pasco	815 485 8480

Personnel Decontamination and Disposal Method:	Medical Emergency:	
Personnel will follow the U S. Environmental Protection Agency's "Standard Operating Safety Guides" for decontamination procedures for Level D personal protection (with modified Level C contingency) The following decontamination stations should be set up in each decontamination zone· • Segregated equipment drop • Boot and glove wash and rinse • Disposable glove, bootie, and coverall removal and segregation station • Safety glasses and hard hat removal station • Hand and face wash and rinse If site conditions require upgrade to Level C, a station must be set up for respirator removal, respirator decontamination, and cartridge disposal. All disposable equipment, clothing, and wash water will be double-bagged or containerized in an acceptable manner and disposed of in accordance with local regulations	Hospital Name	Lake Forest Hospital
	Hospital Address	660 N Westmoreland Rd Lake Forest, IL 60045
	Hospital Telephone Emergency	911
	.. . . General	847-234-5600
	Ambulance Telephone	911
	Route to Hospital. (see route map) Go South on Sheridan Road, turn right (west)onto IL-137. Turn left (south) onto Stokie Hwy and, take the Deerpath ramp Turn right (west) onto Deerpath Road and then right (north) onto Westmorland Road	

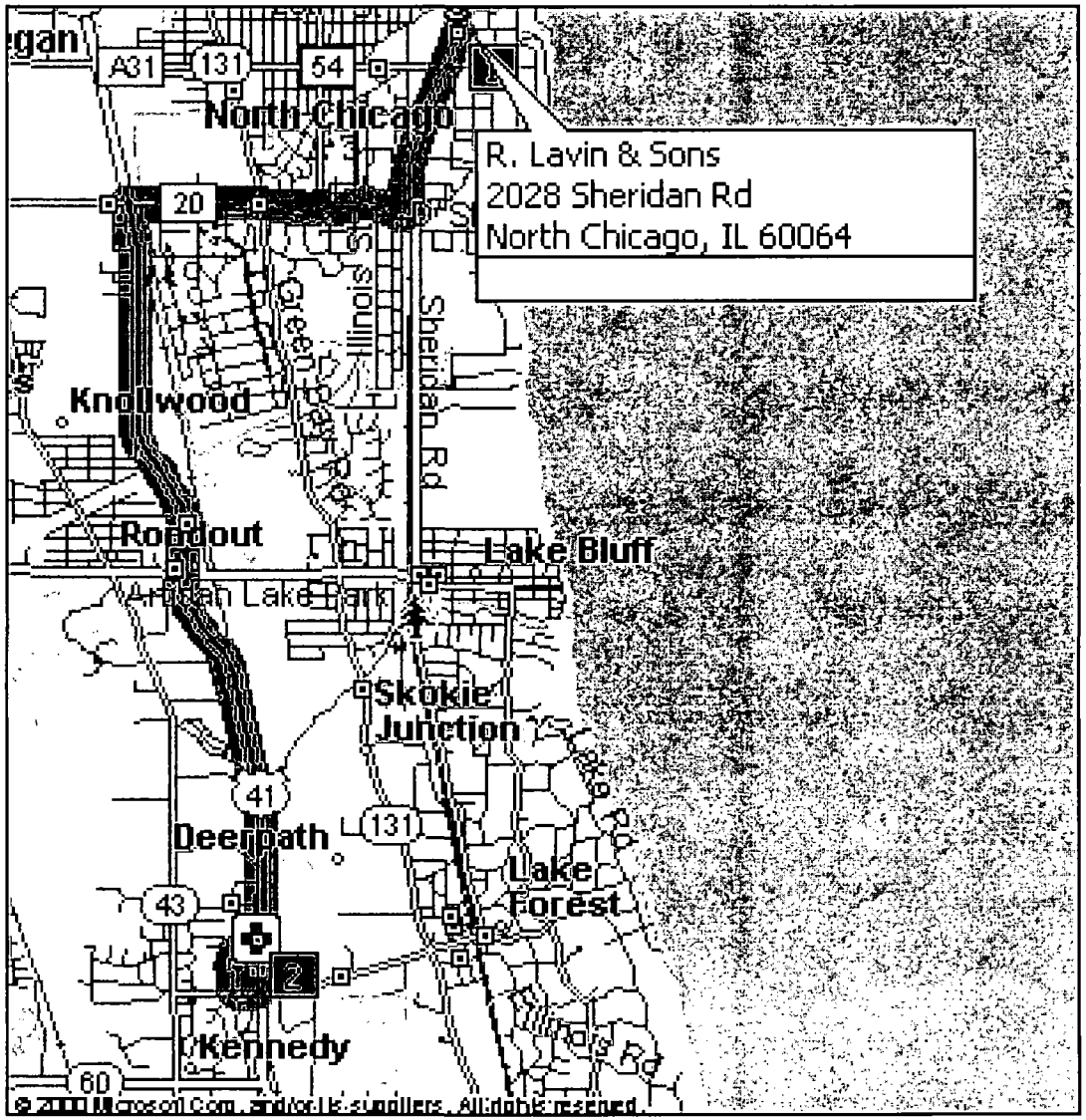
Note: This page must be posted on site

HEALTH AND SAFETY PLAN

Site Map (if available):



Hospital Route Map



APPROVAL AND SIGN-OFF FORM

Project No. *G9009.L.0205004*

I have read, understood, and agree with the information set forth in this Health and Safety Plan and will follow the direction of the Site Safety Coordinator as well as procedures and guidelines established in the K-Plus Health and Safety Manual. I understand the training and medical requirements for conducting field work and have met these requirements.

Name	Signature	Date
Name	Signature	Date
Name	Signature	Date
Name	Signature	Date

APPROVALS: *(Two Signatures Required)*

Site Safety Coordinator	Date
Health and Safety Representative or Designee	Date

HEALTH AND SAFETY PLAN

DEFINITIONS

Intrusive - Work involving excavation to any depth, drilling, opening of monitoring wells, most sampling, and Geoprobe® work

Nonintrusive - Generally refers to site walk-throughs or field reconnaissance

Levels of Protection

Modified Level D - Hard hat, safety boots, and glasses

Level D - Items listed for modified Level D above, **PLUS** protective clothing such as gloves, boot covers, and Tyvek® or Saranex® coveralls

Modified Level C - Hard hat, safety boots, glasses, and air purifying respirators with appropriate cartridges

Level C - Items listed for modified Level C above, **PLUS** protective clothing such as gloves, boot covers, and Tyvek® or Saranex® coveralls

Emergency Contacts

InfoTrac - For issues related to incidents involving the transportation of hazardous chemicals, this hotline provides accident assistance 24 hours per day, 7 days per week

U.S. Coast Guard National Response Center - For issues related to spill containment, cleanup, and damage assessment; this hotline will direct spill information to the appropriate state or region

Health and Safety Plan Short Form

- Used for field projects of limited duration and with relatively limited activities; may be filled in with handwritten text
- Limitations
  - No Level B or A work
  - No more than two tasks
  - No confined space entry
  - No unexploded ordnance work